

1 Attorney Docket No. 83723

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3 BUOYANT DEVICE FOR BI-DIRECTIONAL ACOUSTO-OPTIC
4 SIGNAL TRANSFER ACROSS THE AIR-WATER INTERFACE

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6 ABSTRACT OF THE DISCLOSURE

7 A buoy system bi-directionally communicates in-air and
8 underwater. A buoy having a shell to float on water has an upper
9 portion in air and a lower portion in water. An array of acoustic
10 transducers which is disposed in the lower portion receives
11 acoustic signals and transmits acoustic signals. A dome-shaped
12 retro-reflective coating on the upper portion is vibrated for
13 retro-reflecting impinging laser illumination as data signals in
14 air. An array of photo-detectors on the upper portion are
15 responsive to impinging laser control signals and/or signals
16 which may be transmitted as acoustic signals in water.